CLAIMS

1.   A sample analyzing method based on a response obtained
upon application of a voltage to a reaction field containing
a sample, comprising:

a first step for measuring a first response for use in
calculation necessary for analyzing the sample; and

a second step performed later than the first step for
measuring a second response necessary to determine whether
a target amount of the sample has been supplied to the reaction
field.

2.   The sample analyzing method according to Claim 1, wherein
the first and the second responses are measured as electric
currents in the first and the second steps.

3.   The sample analyzing method according to Claim 1,
wherein the application of voltage to the reaction field in
the first and the second steps is made by using two electrodes
selected from three or more electrodes,

a combination of two electrodes selected in the first
step differing from a combination of two electrodes selected
in the second step.

4.   The sample analyzing method according to Claim 3, wherein
use is made of an analyzing tool which includes a substrate
provided with a capillary for moving the sample, the substrate

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being also provided with said three or more electrodes, each of the electrodes having a respective part lined up in the capillary in a direction of the sample movement.

5. The sample analyzing method according to Claim 4, wherein at least one of the two electrodes selected for measurement of the second response in the second step has its part disposed downstream of the sample flow from the two electrodes selected in the first step.

6. The sample analyzing method according to Claim 1, further comprising a third step for determining whether or not the sample has moved in the reaction field while carrying out the first step.

7. The sample analyzing method according to Claim 6, wherein the first response is measured at a plurality of measuring points at every predetermined time interval in the first step,

the determination in the third step on whether or not the sample has moved in the reaction field being made by checking a time course of the responses obtained from the measuring points to see whether or not a first peak which appears first is followed by a second peak.

8. The sample analyzing method according to Claim 7, wherein the first response is measured as a response current at each of the measuring points in the first step,

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the determination in the third step on whether or not the second peak has appeared being made by comparing a response current measured at one of the measuring points with a response current measured at another of the measuring points located

5   right before said one measuring point in the time course, and by checking if the response current at said one measuring point exceeds the response current at said another measuring point by a predetermined or greater value.

10   9.   The sample analyzing method according to Claim 6, wherein the first response is measured at a plurality of measuring points at every predetermined time interval in the first step,

the determination in the third step on whether or not the sample has moved in the reaction field being made by

15   checking a time course of accumulated response values obtained from each measuring point to see whether or not there has appeared an inflexion point.

10.   A sample analyzing method based on a response obtained

20   upon application of a voltage to a reaction field containing the sample, comprising:

a step of measuring a response at a plurality of measuring points at every specific time interval for use in calculation necessary for analyzing the sample; and an additional step

25   of determining whether or not the sample has moved in the reaction field;

wherein the determination in the additional step on

whether or not the sample has moved in the reaction field being made by checking a time course of the responses obtained from the measuring points to see whether or not a first peak which appears first is followed by a second peak.

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11.   The sample analyzing method according to Claim 10, wherein the response is measured as a response current at each of the measuring points,

the determination in the additional step on whether or
10   not the second peak has appeared being made by comparing a response current measured at one of the measuring points with a response current measured at another of the measuring points located right before said one measuring point in the time course, and by checking if the response current at said one
15   measuring point exceeds the response current at said another measuring point by a predetermined or greater value.

12.   A sample analyzing method of analyzing a sample based on a response obtained upon application of a voltage to a
20   reaction field containing the sample, comprising:

a step of measuring a response at a plurality of measuring points at every specific time interval for use in calculation necessary for analyzing the sample; and an additional step of determining whether or not the sample has moved in the
25   reaction field;

wherein the determination in the additional step on whether or not the sample has moved in the reaction field

is made by checking a time course of accumulated response values obtained from each measuring point to see whether or not there has appeared an inflexion point.

13.   A sample analyzer comprising:

a voltage applier for application of a voltage to a reaction field including a sample;

a response measurer for measurement of a response to the voltage applied to the reaction field;

a selector for selecting a first voltage application state for measurement of a first response for use in calculation necessary for analyzing the sample, or a second voltage application state for measurement of a second response for use in determining whether or not the reaction field has been supplied with a target amount of the sample;

an arithmetic operator for calculation necessary for analyzing the sample based on the first response;

a determiner for determination based on the second response, on whether or not the reaction field has been supplied with the target amount of sample; and

a controller for causing the selector to select the second voltage application state after causing the selector to select the first voltage application state.

14.   The sample analyzer according to Claim 13, wherein the measurer measures the first and the second responses as electric currents in the first and the second steps.

15.   The sample analyzer according to Claim 13, utilizing an analyzing tool including a substrate, a capillary for moving the sample and three or more electrodes formed in the substrate, part of each electrode being lined up in the capillary in a direction of the sample movement;

wherein the voltage applier applying the voltage to the reaction field via two electrodes selected from the three or more electrodes,

the controller controlling the selector in selecting the two electrodes for measurement of the second response, to include at least one electrode having its part disposed downstream of the sample flow from the two electrodes selected for measurement of the first response.

16.   The sample analyzer according to Claim 15, wherein the selector includes a switch for individual selection for the three or more electrodes, of a state in which the electrode is electrically connected with the voltage applier or a state in which it is not.

17.   The sample analyzer according to Claim 13, further comprising an additional determiner for determining whether or not the sample has moved in the reaction field while measuring the first response,

the arithmetic operator recognizing an error upon determination by the determiner of not receiving a supply

of a target amount of the sample or upon determination by the additional determiner of a movement of the sample, the arithmetic operator making calculation necessary for analyzing the sample regardless of the error.

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18.   The sample analyzer according to Claim 17, further comprising a display for displaying a result of calculation made by the arithmetic operator and an error message.

10   19.   The sample analyzer according to Claim 18, wherein the display displays a content of the error upon recognition of the error by the arithmetic operator.